Claims:

1. A monospecific antibody which specifically binds an epitope of a mammalian DPPIV (dipeptidyl peptidase IV, also known as CD26).
2. The monospecific antibody of claim 1, wherein the antibody inhibits angiogenesis.
3. The monospecific antibody of claim 1, wherein the antibody is a monoclonal antibody or a polyclonal antibody.
4. The monoclonal antibody of claim 3, wherein the monoclonal antibody is an IgG.2a.
5. The monospecific antibody of claim 1, wherein the mammalian DPPIV (dipeptidyl peptidase IV/CD26) is human DPPIV.
6. The monospecific antibody of claim 2, wherein the antibody specifically binds the epitope bound by monoclonal antibody E19 or monoclonal antibody E26.
7. The monospecific antibody of claim 6, wherein the antibody is monoclonal antibody E19 or monoclonal antibody E26.
8. The monospecific antibody of claim 6, wherein the antibody comprises an antigen-binding fragment of monoclonal antibody E19 or of monoclonal antibody E26.
9. The monospecific antibody of claim 8, wherein the antigen-binding fragment is selected from the group consisting of $F(ab')_2$, F(ab') and Fv.
10. A bispecific antibody with binding specificity for a first epitope and a second epitope, wherein the first epitope is the epitope bound by the monospecific antibody of claim 1.
11. The bispecific antibody of claim 10, wherein the second epitope is an epitope of seprase, an epitope of MT1-MMP, an epitope of MMP-2 or an epitope of $\alpha(3)\beta(1)$-integrin.
12. The monospecific antibody of claim 1, wherein the antibody is a chimeric antibody.
13. The chimeric antibody of claim 12, wherein the antibody is a humanized antibody.
14. An immunoconjugate comprising a monospecific antibody according to claim 1 joined to a therapeutic agent.
15. The immunoconjugate of claim 14, wherein the antibody is a monoclonal antibody.
16. The immunoconjugate of claim 15, wherein the monoclonal antibody is an IgG.2a.
17. The immunoconjugate of claim 15, wherein the immunoconjugate specifically binds the epitope bound by monoclonal antibody E19 or monoclonal antibody E26.
18. The immunoconjugate of claim 17, wherein the immunoconjugate comprises monoclonal antibody E19 or monoclonal antibody E26.

19. The immunoconjugate of claim 17, wherein the immunoconjugate comprises an antigen binding fragment of monoclonal antibody E19 or of monoclonal antibody E26.

20. The immunoconjugate of claim 19, wherein the antigen binding fragment is selected from the group consisting of $F(ab')_2$, F(ab') and Fv.

21. The immunoconjugate of claim 14, wherein the immunoconjugate comprises a humanized antibody.

22. The immunoconjugate of claim 14, wherein the immunoconjugate comprises a single chain antibody.

23. An immunoconjugate comprising a bispecific antibody with binding specificity for a first and a second epitope, the first epitope being an epitope of human DPPIV (dipeptidyl peptidase IV/CD26).

24. The immunoconjugate of claim 23, wherein the second epitope is an epitope of human seprase, MT1-MMP, MMP-2 or $\alpha(3)\beta(1)$-integrin.

25. The immunoconjugate of claim 14, wherein the therapeutic agent is an anti-tumor drug, a cytotoxin, a radioactive agent, a photosensitizer, a second antibody or an enzyme.

26. A pharmaceutical composition for inhibiting angiogenesis comprising an effective amount of a monospecific antibody according to claim 2 and a pharmaceutically acceptable carrier.

27. A pharmaceutical composition for inhibiting angiogenesis comprising an effective amount of a bispecific antibody according to claim 10 and a pharmaceutically acceptable carrier.

28. A pharmaceutical composition for inhibiting angiogenesis comprising an effective amount of an immunoconjugate according to claim 14 and a pharmaceutically acceptable carrier.

29. A pharmaceutical composition for inhibiting angiogenesis comprising an effective amount of an immunoconjugate according to claim 23 and a pharmaceutically acceptable carrier.

30. A method of treating a patient suffering from a growth or proliferative disorder involving angiogenesis, comprising administering an effective amount of a monospecific antibody according to claim 2.

31. A method of treating a patient suffering from a growth or proliferative disorder involving

angiogenesis, comprising a administering an effective amount of a bispecific antibody according to claim 10.

32. A method of treating a patient suffering from a growth or proliferative disorder involving angiogenesis, comprising administering an effective amount of an immunoconjugate according to claim 14.

33. A method of treating a patient suffering from a growth or proliferative disorder involving angiogenesis, comprising administering an effective amount of an immunoconjugate according to claim 23.

34. The method of treating a patient according to claim 30, in combination with a chemotherapy regimen.

35. The method of treating a patient according to claim 31, in combination with a chemotherapy regimen.

36. The method of treating a patient according to claim 32, in combination with a chemotherapy regimen.

37. The method of treating a patient according to claim 33, in combination with a chemotherapy regimen.

38. A continuous cell line which produces the monospecific antibody of claim 1.

39. The continuous cell line of claim 38, wherein the monospecific antibody is a monoclonal antibody.

40. The continuous cell line of claim 39, wherein the monoclonal antibody specifically binds the epitope recognized by monoclonal antibody E19 or monoclonal antibody E26.

41. The continuous cell line of claim 39, wherein the monoclonal antibody specifically binds the epitope recognized by monoclonal antibody E3 or monoclonal antibody F4.

42. The continuous cell line of claim 40, wherein the monoclonal antibody is E19.

43. The continuous cell line of claim 40, wherein the monoclonal antibody is E26.

44. The continuous cell line of claim 42, which is the E19 hybridoma.

45. The continuous cell line of claim 43, which is the E26 hybridoma.

46. A method of inhibiting cancer invasion and angiogenesis in a solid tumor in a patient wherein cells of normal tissue do not express levels of the DPPIV-seprase complex detectable by immunohistochemistry, the method comprising administering to said patient a composition comprising an cancer invasion- and angiogenesis-inhibiting amount

of anti-DPPIV monoclonal antibody, whereby the DPPIV-seprase complex expressed on the surface of vascular endothelial cells and invading cancer cells involved in said cancer invasion and angiogenesis is contacted by said antibody resulting in inhibition of cancer invasion and limiting the blood supply to the tissue of said solid tumor.

47. The method of claim 46, wherein said anti-DPPIV antibodies inhibit binding of collagen to the DPPIV-seprase complex.

48. The method of claim 46, wherein said monoclonal antibody has the immunoreactivity characteristics of monoclonal antibody E19 or monoclonal antibody E26.

49. The method of claim 46, wherein the cancer invasion and angiogenesis-inhibiting amount of anti-DPPIV monoclonal antibody is from about 0.1 mg/kg to about 300 mg/kg.

50. The method of claim 46, wherein said administering comprises intravenous administration.

51. The method of claim 46, wherein said administering comprises transdermal administration.

52. The method of claim 46, wherein said administering comprises intramuscular administration.

53. The method of claim 46, wherein said administering comprises oral administration.

54. The method of claim 46, wherein said administering is conducted in conjunction with chemotherapy.

55. The methods of ~~claim~~ 46, wherein said administering is conducted in conjunction with administration of a cytotoxin conjugate.

56. The method of claim 46, wherein the patient is a human.

57. The method of claim 56, wherein the antibody is humanized.

58. The method of claim 57, wherein the humanized antibody has the immunoreactivity characteristics of monoclonal antibodies E19 and E26.

59. The method of ~~claim~~ 46, wherein the anti-DPPIV antibody specifically binds the DPPIV-seprase complex.

60. The method of claim 46, wherein the tumor is metastasized.

61. A method of stimulating angiogenesis in a mammal mammal suffering from disease or disorder that may be remedied by an increased blood supply, the method comprising administering to said mammal a composition comprising an angiogenesis-stimulating

amount of a DDPIV modulator, whereby the blood supply to the affected tissue is increased.

62. The method according to claim 61, wherein the disease or disorder is a cardiovascular disease, a diabetic ulcer, a retinopathy or a non-healing wound.

ADD A1

10022377.033002